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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,513	07/01/2003	Thomas P. Hager	25186E	2168

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EXAMINER	
LEE, JINHEE J	

ART UNIT	PAPER NUMBER
2831	

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/611,513	HAGER ET AL.	
	Examiner	Art Unit	
	Jinhee J. Lee	2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *0504*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I in the reply filed on 11/1/04 is acknowledged.

Claims 20-30 are cancelled as requested by the applicant.

Drawings

2. The drawings are objected to because Figures 1-3, 5-7 and 10 lack the proper cross-hatching which indicates the type of materials which may be in an invention. Specifically, the cross-hatching to indicate the conductor and insulation materials is incorrect. The applicant should refer to MPEP Section 608.02 for the proper cross hatching of materials. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 3 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 and 11 recites the limitation "sized or unsized" throughout the claims. This is confusing and indefinite. Clarify. Is it sized or is it unsized?

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-2, 4, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Girgis (US005286562A) in view of Fairgrieve (US005925461A).

Re claim 1, Girgis substantially discloses a flexible reinforcement member comprising: a plurality of high modulus fibers (see abstract line 2); a primary saturant

(see abstract lines 2-6) coupled to said plurality of high modulus fibers said primary saturant having a melting point below approximately 300 degrees Celsius (see column 2 line 45 for example). Girgis does not explicitly disclose a melt viscosity of less than approximately 1000 centipoise and higher molecular weight, water-swellable polymer topcoat coupled to said primary saturant. However, Fairgrieve teaches of a higher molecular weight, water-swellable polymer topcoat (see abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the higher molecular weight, water-swellable polymer topcoat of Fairgrieve and couple to said primary saturant of Girgis in order to provide a water blocking composite. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the primary saturant having a melt viscosity of less than approximately 1000 centipoise, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Re claim 2, Girgis substantially discloses a flexible reinforcement member, wherein said primary saturant has a melting point below between about 100 to about 150 degrees Celsius (see column 2 line 45 for example). Girgis does not explicitly disclose a melt viscosity of less than 500 centipoise. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the primary saturant having a melt viscosity of less than 500 centipoise, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the

optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Re claim 3, note that Fairgrieve teaches that the plurality of sized high modulus fibers are selected from the group consisting of a plurality of sized or unsized aramid fibers and a plurality of sized or unsized poly (p -phenylene-z, 6- benzobisoxazole) (PBO) fibers and a plurality of sized or unsized carbon fibers and a plurality of sized or unsized high silica glass and sized or unsized high tenacity, linearized polyethylene fiber (see column 2 lines 21-22).

Re claim 4, note that Girgis discloses said plurality of high modulus fibers comprising a plurality of glass fiber strands (see abstract).

Re claim 5, note that Girgis discloses wherein said plurality of glass fiber strands comprises at least one glass fiber bundle, each of said at least one glass fiber bundle comprising a plurality of glass fiber filaments (see claim 1).

Re claim 6, the member of Girgis modified by Fairgrieve substantially discloses a flexible reinforcement member as set forth in claim 2 above with each of said at least one glass fiber bundle comprising a plurality of glass fiber filaments. Girgis/Fairgrieve does not explicitly disclose wherein said plurality of glass fiber strands comprises a plurality of glass fiber filaments and at least one glass fiber bundle. However, Fairgrieve teaches that the fibrous substrate may comprise glass fibre filaments, or glass fiber tow bundles. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the glass fibre filaments and the glass fiber tow bundles taught by Fairgrieve with the member of Girgis in order to provide a fibrous substrate.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the glass fibre filaments and the glass fiber tow bundles in order to provide fibrous substrate, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art. *In re Karlson*, 136 USPQ 184.

Re claim 7, note that Girgis discloses said primary saturant comprising a low molecular weight mineral wax (see column 2 lines 54-67).

Re claim 8, note that Girgis discloses said primary saturant that is a low molecular weight microcrystalline wax (see column 2 lines 54-67).

Re claim 12, the device of Girgis modified by Fairgrieve discloses the claimed invention except wherein said primary saturant comprises approximately 0.1 and 35 percent of the total weight of said flexible reinforcement member and wherein said high molecular weight water-swellable polymer topcoat comprises between approximately 0.1 and 35 percent of the total weight of said flexible reinforcement member. It would have been an obvious matter of design choice to use said primary saturant that comprises approximately 0.1 and 35 percent of the total weight of said flexible reinforcement member and wherein said high molecular weight water-swellable polymer topcoat comprises between approximately 0.1 and 35 percent of the total weight of said flexible reinforcement member in order to provide optimum proportions, since such a modification would have involved a mere change in the dimensions or proportion of a component. A change in dimensions or proportion is generally recognized as being

within the level of ordinary skill in the art. *In Gardner v. TEC Systems, Inc.*, 725 F .2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Re claim 13, the device of Girgis modified by Fairgrieve discloses the claimed invention except wherein said primary saturant comprises approximately 5 and 20 percent of the total weight of said flexible reinforcement member and wherein said high molecular weight water-swellable polymer topcoat comprises between approximately 5 and 20 percent of the total weight of said flexible reinforcement member. It would have been an obvious matter of design choice to use said primary saturant that comprises approximately 5 and 20 percent of the total weight of said flexible reinforcement member and wherein said high molecular weight water-swellable polymer topcoat comprises between approximately 5 and 20 percent of the total weight of said flexible reinforcement member in order to provide optimum proportions, since such a modification would have involved a mere change in the dimensions or proportion of a component. A change in dimensions or proportion is generally recognized as being within the level of ordinary skill in the art. *In Gardner v. TEC Systems, Inc.*, 725 F .2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Re claim 14, the device of Girgis modified by Fairgrieve discloses the claimed invention except wherein said primary saturant comprises approximately 10 and 15 percent of the total weight of said flexible reinforcement member and wherein said high molecular weight water-swellable polymer topcoat comprises between approximately 10 and 15 percent of the total weight of said flexible reinforcement member. It would have been an obvious matter of design choice to use said primary saturant that comprises

approximately 10 and 15 percent of the total weight of said flexible reinforcement member and wherein said high molecular weight water-swellable polymer topcoat comprises between approximately 10 and 15 percent of the total weight of said flexible reinforcement member in order to provide optimum proportions, since such a modification would have involved a mere change in the dimensions or proportion of a component. A change in dimensions or proportion is generally recognized as being within the level of ordinary skill in the art. *In Gardner v. TEC Systems, Inc.*, 725 F .2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Re claim 15, note that Fairgrieve teaches, wherein said high molecular weight water-swellable polymer topcoat is selected from the group consisting of ethylene vinyl acetate (EVA) polymers, block copolymers of polybutylene terepthalate, copolymers of long chain polyether glycols, thermoplastic elastomers, olefins, urethanes, polypropylene, polyethylene, polyurethane, low molecular weight mineral wax, polyacrylamides and blends thereof (see column 3 line 66 for example).

Re claim 16, the assembly of Girgis as modified by teachings of Fairgrieve discloses the claimed invention except wherein the glass transition temperature (Tg) of said flexible reinforcement is greater than about 40.degree. C. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the flexible reinforcement with the glass transition temperature (Tg) greater than about 40.degree. C., since it has been held that where the general conditions of a claim are

disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Re claim 17, note that Fairgrieve teaches, wherein said high molecular weight water-swellable polymer topcoat comprises an ethylene vinyl acetate polymer topcoat.

Re claim 18, note that Fairgrieve teaches, wherein said high molecular weight water-swellable topcoat is a blend of water-swellable polymer topcoat and non water-swellable topcoat (see abstract).

Re claim 19, the device of Girgis modified by Fairgrieve discloses the claimed invention except wherein the water absorbency for the reinforcement member is between about 111 to about 142 percent by weight. It would have been an obvious matter of design choice to use the water absorbency for the reinforcement member that is between about 111 to about 142 percent by weight in order to provide optimum proportions, since such a modification would have involved a mere change in the dimensions or proportion of a component. A change in dimensions or proportion is generally recognized as being within the level of ordinary skill in the art. *In Gardner v. TEC Systems, Inc.*, 725 F .2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jinhee J. Lee whose telephone number is 571-272-1977. The examiner can normally be reached on M, T, Th and F at 6:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A. Reichard can be reached on 571-272-2800 ext. 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jinhee J Lee
Patent Examiner
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jjl